

**WHAT IS CLAIMED IS:**

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1. A pharmaceutical composition in a closed container, said composition comprising a meiosis activation substance having a low oxygen content, and wherein said closed container is capable of maintaining the low content of oxygen.

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2. The pharmaceutical composition in a closed container according to claim 1, wherein the low oxygen content is below about 0.01 moles oxygen per liter of the volume of the container.

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3. The pharmaceutical composition in a closed container according to claim 1, wherein the low oxygen content is below about 0.001 moles of oxygen per liter of the volume of the container.

4. The pharmaceutical composition in a closed container according to claim 1, wherein the low oxygen content is below about 0.0001 moles of oxygen per liter of the volume of the container.

5. A pharmaceutical composition in a closed container comprising:

(i) a solid composition of a meiosis activation substance

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(iii) an atmosphere with a low oxygen content, as in

wherein the closed container is capable of containing the amount of liquid.

6. The pharmaceutical composition in a closed container according to claim 5, wherein the solid composition of a main active substance is 100 mg.

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7. The pharmaceutical composition in a closed container according to claim 5, wherein the oxygen content of the atmosphere is below 10%.
8. The pharmaceutical composition in a closed container according to claim 5, wherein the oxygen content of the atmosphere is below 5%.
9. The pharmaceutical composition in a closed container according to claim 5, wherein the oxygen content of the atmosphere is below 1%.
10. 10. The pharmaceutical composition in a closed container according to claim 5, wherein the atmosphere contains over 90% nitrogen or argon.
11. The pharmaceutical composition in a closed container according to claim 5, wherein the atmosphere contains over 99% nitrogen or argon.
12. The pharmaceutical composition in a closed container according to claim 5, wherein the solid composition has a water content below about 10%.
13. The pharmaceutical composition in a closed container according to claim 5, wherein the solid composition has a water content below about 5%.
14. The pharmaceutical composition in a closed container according to claim 5, wherein the solid composition has a water content below about 1%.
- 25 15. The pharmaceutical composition in a closed container according to claim 5, wherein the solid composition has an organic solvent content below about 10%.
16. The pharmaceutical composition in a closed container according to claim 5, wherein the solid composition has an organic solvent content below about 5%.

17. The pharmaceutical composition in a closed container according to claim 5, wherein the solid composition has an organic solvent content below about 1%.

5 18. The pharmaceutical composition in a closed container according to claim 5, wherein  
the meiosis activation substance content is below about 10% by weight

19. The pharmaceutical composition in a closed container according to claim 5, wherein the meiosis activation substance content is below about 2% by weight.

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20. The pharmaceutical composition in a closed container according to claim 5, wherein the meiosis activation substance content is below about 1% by weight.

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21. The pharmaceutical composition in a closed container according to claim 1, wherein the meiosis activation substance is a compound exhibiting a percentage germinal vesicle breakdown which is 50% higher than a control.

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22. The pharmaceutical compositions in a closed container according to claim 1, wherein the meiosis activation substance is selected from 4,4-dimethyl-5 $\alpha$ -cholest-8,14,24-triene-3 $\beta$ -ol; 4,4-dimethyl-5 $\alpha$ -cholest-8,14,24-trien-3 $\beta$ -ol hemisuccinate; 5 $\alpha$ -cholest-8,14-dien-3 $\beta$ -ol; 5 $\alpha$ -cholest-8,14-dien-3 $\beta$ -ol hemisuccinate; (20S)-cholest-5-en-3 $\beta$ ,20-diol; 3 $\beta$ -hydroxy-4,4-dimethyl-5 $\alpha$ -chola-8,14-dien-24-oic acid-N-(methionine) amide; cholest-5-en-16 $\beta$ -ol; and (20S)-20-[(piperidin-1-yl)methyl]-4,4-dimethyl-5 $\alpha$ -pregna-8,14-dien-3 $\beta$ -ol.

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23. The pharmaceutical composition in a closed contained according to claim 5, wherein the additive is a protein or a phosphoglyceride.

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25. The pharmaceutical composition in a closed container according to claim 24, wherein the serum albumin is human serum albumin or recombinant form human serum albumin.

5 26. The pharmaceutical composition in a closed container according to claim 5, wherein  
the additive content is above about 90%.

27. The pharmaceutical composition in a closed container according to claim 5, wherein the additive content is above about 98%.

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28. The pharmaceutical composition in a closed container according to claim 5, wherein the additive content is above about 99%

29. The pharmaceutical composition in a closed container according to claim 5, said container having one or more hollow spaces and wherein at least one hollow spaces contains

- (i) the solid composition of a meiosis activation substance with a high aqueous solubility,
- (ii) the additive, and
- (iii) the atmosphere with a low oxygen content.

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30. The pharmaceutical composition in a closed container according to claim 5, wherein an aqueous media is added to the solid composition to form an aqueous solution.

31. The pharmaceutical composition in a closed container according to claim 30, wherein the meiosis activation substance in the aqueous solution is in a concentration above about 100 µg/ml.

32. The pharmaceutical composition in a closed container according to claim 30, wherein the meiosis activation substance in the aqueous solution is in a concentration above about 10 µg/ml.

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33. The pharmaceutical composition in a closed container according to claim 30, wherein the meiosis activation substance in the aqueous solution is in a concentration above about 1 µg/ml.

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34. The pharmaceutical composition in a closed container according to claim 30, wherein the meiosis activation substance in the aqueous solution is in a concentration above about 0.001  $\mu$ g/ml.

10 35. The pharmaceutical composition in a closed container according to claim 30, wherein the aqueous media has an organic solvent content of less than about 0.1%.

36. The pharmaceutical composition in a closed container according to claim 30, wherein the aqueous media has an organic solvent content of less than about 2.5%.

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37. A process for preparing a pharmaceutical composition in a closed container, comprising

- a) preparing a solid composition comprising a meiosis activation substance and an additive;
- b) adding the solid composition to the container;
- c) freeze drying the composition; and
- d) closing the container *in vacuo*.

38. The process according to claim 37, wherein the preparation of the solid composition is performed *in vacuo*.

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39. The process according to claim 37, wherein the preparation of the solid composition is in an atmosphere having a low content of oxygen.

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40. A process for preparing a pharmaceutical composition in a closed container, said process comprising:

- a) preparing a solid composition comprising a meiosis activation substance and an additive;
- b) filling the solid composition into the container;
- 5 c) filling the container with an atmosphere having a low content of oxygen; and
- d) closing the container.

41. The process according to claim 40, wherein the solid composition is prepared in an atmosphere having a low content of oxygen.

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42. A process for increasing the stability of a pharmaceutical composition in a closed container comprising:

- a) preparing a solid composition comprising a meiosis activation substance having a low content of oxygen and an additive;
- 15 b) filling the solid composition into the container;
- c) filling the container with an atmosphere having a low content of oxygen; and
- d) closing the container.

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